

Machine Translation of CN 1415854A

A wind-driven generator paddle

Affiliated technical field

It is a wind-driven generator paddle to the invention relates to wind electric power generation equipment field

The background art

The present adoption paddle of wind-driven generator, be pitch by the screw blade of center to the apex gradual change, set up in the orientation of facing the wind, the air current acts on the blade surface, makes the effort of air current be decomposed into positive-going pressure and sideways thrust because it has the constant slope, this lateral thrust shows as paddle pivoted motive force, because in the process that promotes the paddle, consequently the change of air current orientation has led to the fact the vortex, because the change of the pitch that every section was put on the paddle makes the air current on the paddle face form the radial flow from well mind-set apex, and such air current makes paddle efficiency descend, also makes to keep the certain distance between per two typhoon power generators in addition, in order to avoid the working efficiency decline that brings because of vortex influence.

The disclosure of the invention

Invention purpose lies in reducing the produced vortex in paddle blade surface, improves the working efficiency of paddle.

The invention realizes the invention purpose like this: set up the wing fence at the paddle windward side, the wing fence is unanimous with paddle cross section orientation, and is perpendicular with the blade surface, utilizes the effect that stops of wing fence to reduce the radial air current of paddle, improves the efficiency of paddle.

The invention compared with conventional techniques, its wing fence has reduced the radial air current of paddle, the energy of flow of losing one's temper loss reduces and more turns into the motive force to the paddle, has improved efficiency, the vortex that makes whole paddle produce in addition reduces, can make the distance between the wind-driven generator shorten, in order to more wind energies of utilizing in the same floor space.

Now further explain the invention according to figure and embodiment

Fig. 1 is an invention global architecture front view.

Fig. 2 is the structure chart of the individual paddle of the invention.

In the picture 1 be the paddle, the 2nd, the wing fence.

The embodiment adopts the shape of falling T wing fence (2), and horizontal part is for hookup set up of wing fence (2) with paddle (1) in the shape of falling T wherein, and the hookup is adopted and is bonded or the screw hookup, facing the wind of paddle (1)

Set up on the face a plurality of wing fences (2). When air current flow path paddle (1), because the facing the wind and have an angle with the wind direction of paddle (1), this angle equals with paddle pitch, and the effort of air current is decomposed into pressure and rotatory motive force to the paddle by paddle (1), air current orientation therefore change, and some becomes the vortex, and the pitch of putting because of the every section of paddle (1) is all different, and the pitch at paddle (1) center is big, and apex pitch is little, therefore partly air current flows and the loss along the well mind-set apex of paddle (1), sets up wing fence (2) back on the paddle, and this radial air current is obstructed, and the compelled motive force that turns into paddle (1) consequently, has improved the air current utilization ratio, and the working efficiency of messenger's paddle (1) can improve.

Claim

A wind-driven generator paddle comprises paddle and wing fence, characterized in that the paddle windward side sets up the wing fence, and the wing fence is unanimous with paddle cross section orientation, and is perpendicular with the blade surface.

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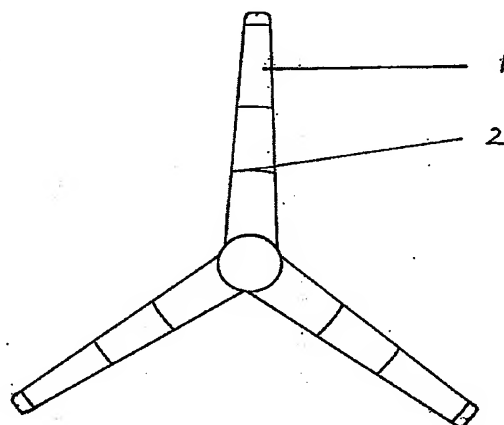
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[54] 发明名称 一种风力发电机桨叶

[57] 摘要

一种风力发电机桨叶，属于风力发电设备领域，为解决以往桨叶因其每段位置的螺距变化而造成气流一部分沿径向流动而损失的问题，使桨叶提高效率、减少涡流，采用在桨叶迎风面上设置翼刀，翼刀与桨叶横截面方向一致，与叶面垂直，利用翼刀对气流的阻挡作用减少桨叶的径向气流，提高桨叶的工作效率。



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一种风力发电机桨叶，由桨叶与翼刀组成，其特征是桨叶迎风面设置翼刀，翼刀与桨叶横截面方向一致，与叶面垂直。

一种风力发电机桨叶

所属技术领域

本发明涉及风力发电设备领域，是一种风力发电机桨叶

背景技术

目前风力发电机的采用桨叶，是螺距由中心到叶尖渐变的螺旋桨叶片，在迎风方向设立，气流作用于叶面，由于其具有一定斜度而使气流的作用力分解为正向的压力及侧向的推力，该侧向推力表现为桨叶转动的推动力，由于在推动桨叶的过程中，气流方向的改变，因此造成了涡流，另外由于桨叶上每段位置的螺距的改变，使桨叶面上的气流形成自中心向叶尖的径向流动，这样的气流使桨叶效率下降，也使每台风力发电机之间必须保持一定距离，以避免因涡流影响而带来的工作效率下降。

发明内容

本发明目的在于减少桨叶叶面所产生的涡流，提高桨叶的工作效率。

本发明是这样实现发明目的的：在桨叶迎风面设置翼刀，翼刀与桨叶横截面方向一致，与叶面垂直，利用翼刀的阻挡作用减少桨叶的径向气流，提高桨叶的效率。

本发明与现有技术相比，其翼刀减少了桨叶的径向气流，使气流动能损失减少而更多的转化为对桨叶的推动力，提高了效率，而且使整个桨叶产生的涡流减少，可使风力发电机之间的距离缩短，以利在相同的占地面积上更多的利用风能。

下面根据附图和实施例对本发明进一步说明

图1是本发明整体结构正视图。

图2是本发明单个桨叶的结构图。

图中1是桨叶、2是翼刀。

实施例采用倒T形翼刀(2)，其中的倒T形中横的部分是为翼刀(2)与桨叶(1)的联接而设置，联接采用粘接或螺钉联接，在桨叶(1)的迎风

面上设置多个翼刀(2)。当气流流经桨叶(1)时,由于桨叶(1)的迎风而与风向存在一个角度,此角度与桨叶螺距相等,气流的作用力由桨叶(1)分解为对桨叶的压力与旋转推动力,气流方向因而发生改变,一部分变为涡流,而因桨叶(1)每段位置的螺距都不同,桨叶(1)中心的螺距大,叶尖螺距小,因而一部分气流沿桨叶(1)的中心向叶尖流动而损失,在桨叶上设置翼刀(2)后,该径向气流受阻,被迫转化为桨叶(1)的推动力,因此,提高了气流利用率,使桨叶(1)的工作效率得以提高。

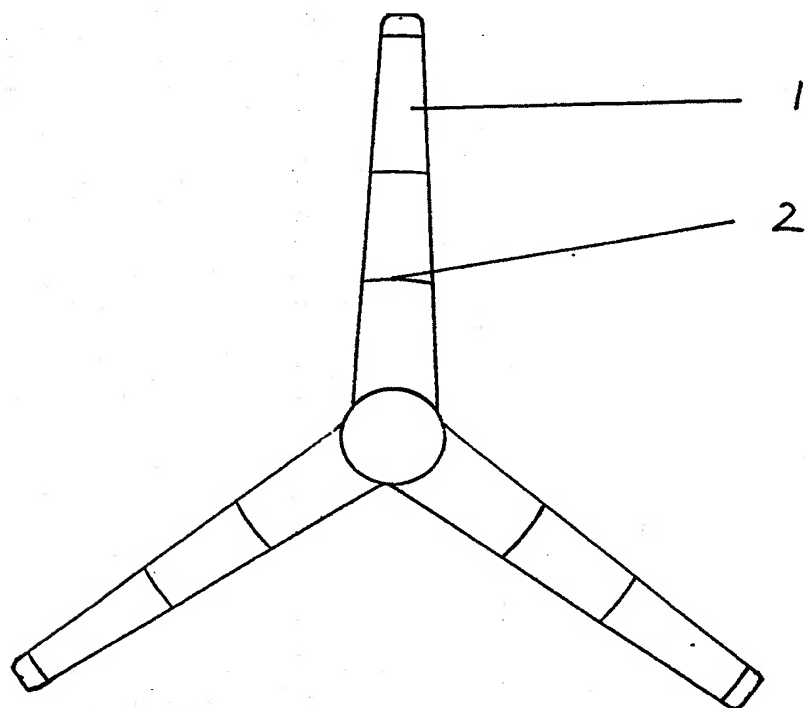


图 1

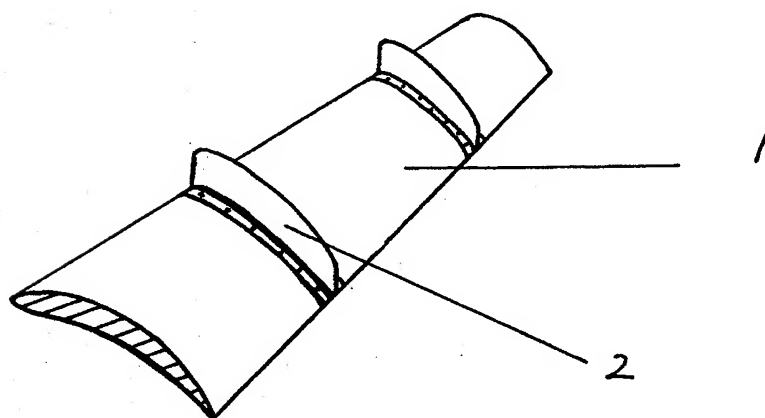


图 2